WHAT IS CLAIMED IS:

1. A method of fabricating an orifice plate for use in an ink jet printing system, comprising the steps of:

providing a substrate base;

applying a controlled-release layer to a surface of the substrate base;

adherently coating a conductive metal layer on the controlled-release layer;

creating at least one dielectric peg on a portion of the conductive metal layer;

applying a nozzle layer on the conductive metal layer wherein the nozzle layer partially covers the at least one dielectric peg;

using photolithography to define a trench that covers the nozzles prior to formation of a second reinforcing layer;

removing the controlled-release layer to separate the orifice plate from the substrate base;

selectively etching the conductive metal layer from the nozzle layer to produce a completed multi-layer orifice plate.

2. A method as claimed in claim 1 wherein the substrate base comprises a metal substrate not attacked by chemicals used in electroforming processes.

3. A method as claimed in claim 1 wherein the substrate base comprises a chrome coated glass substrate.

4. A method as claimed in claim 1 wherein the controlled-release layer comprises an organic chemical layer.

5. A method as claimed in claim 4 wherein the organic chemical layer comprises a photoresist.

6. A method as claimed in claim 1 wherein the conductive metal layer comprises a copper layer.

7. A method as claimed in claim 1 wherein the conductive metal layer comprises a conductive layer having an approximate thickness of 0.1 micron.

8. A method as claimed in claim 1 wherein the step of adherently coating comprises the step of sputtering.

9. A method as claimed in claim 1 wherein the controlled-release layer comprises a controlled-release layer having an approximate thickness of 0.5 micron.

10. A method as claimed in claim 1 wherein the controlled-release layer comprises a controlled-release layer applied to the substrate base by spin coating.

11. A mandrel for use in fabricating three dimensional electroformed structures comprising:

a substrate base;

a controlled-release layer applied to at least one surface of the substrate base; and

a conductive metal layer applied to the conductive-release layer wherein the conductive

metal layer provides a surface upon which to electroform the structure to which the substrate base provides rigidity, the mandrel and the controlled-release layer provide sufficient adhesion to the substrate base to prevent the electroformed structure from delaminating from the substrate base during the electroforming processes and still provide a means to remove the electroformed structure from the substrate base without damage to either the electroformed structure or the substrate base.

12. A mandrel as claimed in claim 11 wherein the substrate base comprises a metal substrate not attacked by chemicals used in electroforming processes.

13. A mandrel as claimed in claim 11 wherein the substrate base comprises a chrome coated glass substrate.

14. A mandrel as claimed in claim 11 wherein the controlled-release layer comprises an organic chemical layer.

15. A mandrel as claimed in claim 11 wherein the controlled-release layer comprises a controlled release layer whereby the electroformed substrate can be removed from the substrate base by chemically dissolving the controlled-release layer.

16. A mandrel as claimed in claim 11 wherein the controlled-release layer comprises a controlled-release layer whereby the electroformed substrate can be removed from the substrate base by melting

the controlled-release layer.

17. A mandrel as claimed in claim 11 wherein the controlled-release layer comprises a brittle controlled-release layer.

18. A mandrel as claimed in claim 17 wherein the electroformed structure can be removed from the substrate base by fracturing the brittle controlled-release layer.

19. An orifice plate for use in an ink-jet printer made using a mandrel as claimed in claim 11.

20. A three dimensional structure made using a mandrel as claimed in claim 11.